CLAIMS:

1. Method of recording marks in an information layer (301) of a record carrier (30) by irradiating the information layer by a pulsed radiation beam (32), said information layer having a phase reversibly changeable between a crystal phase and an amorphous phase, wherein

an even mark having a time length of nT, where n is representing an integer value equal to 4, 6, 8, or 10 and T is representing the length of one period of a reference clock, is written by a sequence of n/2 pulses, and wherein

an odd mark having a time length of nT, where n is representing an integer value equal to 5, 7, 9 or 11, is written by as sequence of (n-1)/2 pulses,

a last pulse in the sequence of pulses for writing an odd mark being a period $\Delta 1p$ longer than a last pulse in the sequence of pulses for writing an even mark,

a gap preceding the last pulse in the sequence of pulses for writing an odd mark being a period $\Delta 1g$ longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark being a period $\Delta 2$ longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark,

the sum of the periods $\Delta 1p$, $\Delta 1g$, and $\Delta 2$ being within a range from 0.7T to 1.1T.

2. A method according to claim 1,

wherein the sum of the periods $\Delta 1p$ and $\Delta 1g$ is within a range from 0.25T to 0.75T.

3. A method according to claim 1, or 2,

wherein the period $\Delta 1p$ is substantially equal to the period $\Delta 1g$.

4. A method according to claim 1 wherein a mark having a time length of 3T is written by a single pulse being a period $\Delta 3$ longer than the last pulse in the sequence of pulses for writing an even mark, and

a subsequent cooling gap being a period Δ4 longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark,
and wherein the sum of the periods Δ3 and Δ4 is within a range from 0.7T to 1.1T.

5. A method according to claim 4, wherein
the duration of the last pulse in the sequence of pulses for writing an even mark (Tp) is substantially equal to 7.2 ns;
the period Δ1p has a duration substantially equal to 2/8T;
the period Δ1g has a duration substantially equal to 2/8T;
the duration of the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark (Tc) is substantially equal to 5/8T;
the period Δ2 has a duration substantially equal to 3/8T;
the period Δ3 has a duration substantially equal to 7/8T – 7.2 ns; and
the period Δ4 has a duration substantially equal to 5/8T.

6. A method according to claim 5, wherein
the start of the single pulse for writing a mark having a time length of 3T relative to the start of a period of the reference clock corresponds to the start of the first pulse in the sequence of pulses for writing an even mark relative to the start of a period of the reference clock.

7. A recording device for recording marks in an information layer (301) of a record carrier (30) by irradiating the information layer by means of a pulsed radiation beam (32), each mark being written by a sequence of one or more pulses, said information layer having a phase reversibly changeable between a crystal phase and an amorphous phase,
the device comprising
a radiation source (31) for providing the radiation beam, and
a control unit (62) operative for controlling the power of the radiation beam and for providing the sequences of pulses for recording the marks such that
an even mark having a time length of nT, where n is representing an integer value equal to 4, 6, 8, or 10 and T is representing the length of one period of a reference clock, is recorded by a sequence of n/2 pulses and an odd mark having a time length of nT, where n is representing an integer value equal to 5, 7, 9 or 11, is written by as sequence of (n-1)/2 pulses,
a last pulse in the sequence of pulses for writing an odd mark being a period Δ1p longer than a last pulse in the sequence of pulses for writing an even mark,

a gap preceding the last pulse in the sequence of pulses for writing an odd mark being a period Δ1g longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark being a period Δ2 longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and

the sum of the periods Δ1p, Δ1g, and Δ2 being within a range from 0.7T to 1.1T.

8. A recording device for recording marks in an information layer (301) of a record carrier (30) by irradiating the information layer by means of a pulsed radiation beam (32), each mark being written by a sequence of one or more pulses, said information layer having a phase reversibly changeable between a crystal phase and an amorphous phase,

the device comprising

a radiation source (31) for providing the radiation beam,

a control unit (62) operative for controlling the power of the radiation beam and for providing the sequences of pulses for recording the marks, the pattern of pulses and gaps between the pulses in a sequence of pulses based on a set of write parameters (Δ1,Δ2,Δ3,Δ4) provided to the control unit,

an identification unit (63) operative for identifying the record carrier, and

a selection unit (61) operative for selecting a set of write parameters from a collection of sets of write parameters (611) based on the identification of the record carrier and for providing the control unit with the selected set of write parameters,

the selection unit further operative for providing the control unit with a default set of write parameters (612) when the identification unit is incapable of identifying the record carrier and/or the selection unit is incapable of selecting a set of write parameters from the collection of sets of write parameters based on the identification of the record carrier,

said default set of write parameters being such that

an even mark having a time length of nT, where n is representing an integer value equal to 4, 6, 8, or 10 and T is representing the length of one period of a reference clock, is recorded by a sequence of n/2 pulses and an odd mark having a time length of nT, where n is representing an integer value equal to 5, 7, 9 or 11, is written by as sequence of (n-1)/2 pulses,

a last pulse in the sequence of pulses for writing an odd mark being a period Δ1p longer than a last pulse in the sequence of pulses for writing an even mark,

a gap preceding the last pulse in the sequence of pulses for writing an odd mark being a period Δ1g longer than a gap preceding the last pulse in the sequence of pulses for writing an even mark,

a cooling gap succeeding the last pulse in the sequence of pulses for writing an odd mark being a period Δ2 longer than a cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark, and

the sum of the periods Δ1p, Δ1g, and Δ2 being within a range from 0.7T to 1.1T.

9. A recording device according to claim 7 or 8 wherein the sum of the periods Δ1p and Δ1g is within a range from 0.25T to 0.75T.

10. A recording device according to claim 7 or 8 wherein the control unit is further operative for providing a sequence of pulses for recording a mark having a time length of 3T,

said sequence of pulses for recording a mark having a time length of 3T comprising a single pulse being a period Δ3 longer than the last pulse in the sequence of pulses for writing an even mark, and a subsequent cooling gap being a period Δ4 longer than the cooling gap succeeding the last pulse in the sequence of pulses for writing an even mark,

the sum of the periods Δ3 and Δ4 being within a range from 0.7T to 1.1T.